

TARGETED ARTIFICIAL GENE DELIVERY

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Inventor(s):

Applicant(s):

Classification:

- International: A61K35/76; A61K47/30; A61K47/34; A61K47/42; A61K47/46; A61K47/48; A61K48/00; A61K9/127; A61K9/50; C12N15/09; C12N15/08; C12N15/067; A61K35/66; A61K47/30; A61K47/34; A61K47/42; A61K47/46; A61K47/48; A61K48/00; A61K9/127; A61K9/50; C12N15/09; C12N15/08; C12N15/067; (IPC1-7): A61K35/76; A61K47/30; A61K47/34; A61K47/42; A61K47/46; A61K48/00; C12N15/09

- European: A61K47/48R; A61K47/48W2; A61K47/48W8; A61K9/127B; A61K9/50H8B; C12N15/08; C12N15/067T

Application number: JP20010516578T 20000818

Priority number(s): US1990377153 19900819; WO2000US22619 20000818

Also published as:

WO0112235 (A2)
WO0112235 (A3)
US2008103108 (A1)
US2002064520 (A1)
NZ517241 (A)

more >>

Abstract not available for JP 2003507348 (T)

Abstract of corresponding document: WO 0112235 (A2)

Novel and improved compositions and methods for gene therapy are provided. In particular, a targeted artificial gene delivery ("TAGD") vehicle is provided, comprising a multifunctional artificial surface moiety surrounding a recombinant viral particle (nucleocapsid) or recombinant core for gene delivery.

TAGD Surface Engineering



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(51) Int.Cl. ⁷	識別記号	F I	ページコード (参考)
A 6 1 K 48/00		A 6 1 K 48/00	4 B 0 2 4
35/76		35/76	4 C 0 7 6
47/30		47/30	4 C 0 8 4
47/34		47/34	4 C 0 8 7
47/42		47/42	

審査請求 未請求 予備審査請求 有 (全 41 頁) 最終頁に続く

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 (87) 国際公開日 平成13年2月22日 (2001.2.22)
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 (32) 優先日 平成11年8月19日 (1999.8.19)
 (33) 優先権主張国 米国 (U S)

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最終頁に続く

(54) 【発明の名称】 標的設定人工遺伝子送達

(57) 【要約】

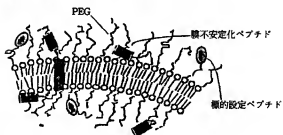
遺伝子治療に対する新規で改良された組成物と方法が提供される。とりわけ標的設定人工遺伝子送達 (T A G D) ベクターが提供され、それは遺伝子送達のための組換えウイルス粒子 (ヌクレオカプシド) または組換えコアを取り囲む多機能人工表面成分より成る。

標的人工遺伝子送達 (T A G D) 表面エン지니어リング

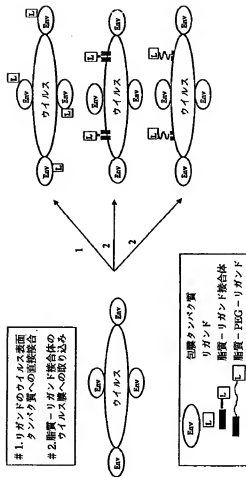


ウイルス	セグメント	ウイルス	セグメント
ALV	-2/14	INFA1	-2/11
BLV	-2/17	MoMuLV	-3/14
ELA	1/52	MMTV	-6/13
FIV	-6/10	MPMV	1/22
HEP C	1/17	RSV	-9/8
HIV 1	-3/11	PINF	1/17
HIV 25YR	1/25	SIV239	-5/13
HTLV2	1/12	SNV	-2/16
HRSV	1/21	VSV	-2/13
infW2	1/16	SimSrcV-HLB	-9/8

標的人工遺伝子送達 (TAGD) 表面エンジニアリング

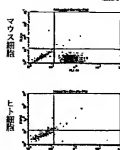


リガンドのウイルス表面への取り込み

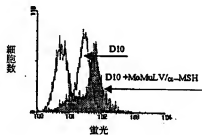
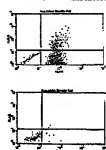




+ MoMuLV + Rh-脂質



+ MoMuLV/Rh-脂質複合体



INTERNATIONAL SEARCH REPORT

Info. Serial Application No.
PCT/US 00/22619

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 C12N15/87 C12N15/86 A61K47/48 A61K48/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. PRIOR ART SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C12N A61K

Documentation searched other than minimum documentation in the extent that such documentation is included in the texts searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, MPI Data, BIOSIS, MEDLINE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Character of document with indication, where appropriate, of the relevant passages	Relevant to claim no.
X	WO 96 21036 A (VIAGENE INC) 11 July 1996 (1996-07-11) the whole document, in particular page 5 line 28 to page 6 line 5, page 12 and page 27 line 30 to page 28 line 24 -- -/-	1-7, 9, 10, 15, 18, 19

☒ Further documents are cited in the description of this C.

☒ Prior art references are listed in annex.

* Special categories of cited documents.

"A" document defining the general state of the art which is not considered to be of particular relevance

"B" earlier document but published on or after the international filing date

"C" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"D" document referring to an oral disclosure, use, exhibition or other means

"E" document published prior to the international filing date but later than the priority date claimed

"F" later document published after the international filing date or priority date and not in conflict with the application but cited to substantiate the principle or theory underlying the invention

"G" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"H" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other prior art documents, such combination being obvious to a person skilled in the art

"I" document of the same patent family

Date of the actual completion of the international search

26 January 2001

Date of making of the international search report

06.02.01

Name and mailing address of the ISA,
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INTERNATIONAL SEARCH REPORT

Int. Appl. No.
PCT/US 00/22619

6. (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication where appropriate, of the relevant passages	Relevant to: Class No.
X	FASBENDER A ET AL: "COMPLEXES OF ADENOVIRUS WITH POLYCATIONIC POLYMERS AND CATIONIC LIPIDS INCREASE THE EFFICIENCY OF GENE TRANSFER IN VITRO AND IN VIVO" JOURNAL OF BIOLOGICAL CHEMISTRY, AMERICAN SOCIETY OF BIOLOGICAL CHEMISTS, BALTIMORE, MD, US, vol. 272, no. 10, 7 March 1997 (1997-03-07), pages 6479-6489, XP002060642 ISSN: 0021-9258 cited in the application the whole document, in particular page 6488 left column	1-3, 7, 18, 19, 21
X	WO 98 44938 A (ANDERSON W FRENCH ; GOROON ERINDA MARIA (US); HALL FREDERICK L (US) 15 October 1998 (1998-10-15) the whole document, in particular paragraphs bridging pages 17 to 18 and figure 18	1, 2, 4, 8, 9, 18, 19
A	US 4 948 590 A (HAMBOT EDWARD ET AL) 14 August 1990 (1990-08-14) the whole document, in particular column 6, lines 23-26 and column 18, lines 1-2	1-3, 8, 18
A	US 5 631 018 A (ZALIPSKY SAMUEL ET AL) 20 May 1997 (1997-05-20) cited in the application the whole document, in particular column 10 lines 20-32	1, 3, 4, 7, 16, 18, 19, 21-23
A	WO 97 40854 A (ANTIVIRALS INC) 6 November 1997 (1997-11-06) the whole text, in particular pages 24-25, 27 and figures 3, 12	1, 3-7, 10, 12, 17, 19-23
A	JANKUSZESKI N M ET AL: "Functional analysis of the cytoplasmic tail of Moloney murine leukemia virus envelope protein" JOURNAL OF VIROLOGY, US, THE AMERICAN SOCIETY FOR MICROBIOLOGY, vol. 71, no. 5, May 1997 (1997-05), pages 3613-3619, XP002130560 ISSN: 0022-538X the whole document	5, 6, 10, 11, 13-15
P, X	WO 00 02909 A (ANDERSON W FRENCH ; ROZENBERG YANINA (US); UNIV SOUTHERN CALIFORNIA) 20 January 2000 (2000-01-20) the whole document, in particular pages 19-27	1, 2, 5, 10, 11, 13-15, 18

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 00/22619**Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)**

This International Search Report has not been established in respect of certain claims under Article 17(2)(b) for the following reasons:

1. ☒ Claims Nos. ...
because they relate to subject matter not required to be searched by this Authority, namely:
Although claim 18 is directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.
2. ☐ Claims Nos. ...
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos. ...
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No.

PCT/US 00/22619

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9621036 A	11-07-1996	AU 4690596 A	24-07-1996
WO 9844938 A	15-10-1998	AU 6890398 A	30-10-1998
		EP 0973538 A	25-01-2000
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		AT 162710 T	15-02-1998
		AU 6357594 A	25-09-1994
		CA 2156901 A	15-09-1994
		DE 69408304 D	05-03-1998
		DE 69408304 T	20-08-1998
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		ES 2114186 T	16-05-1998
		JP 3066437 B	17-07-2000
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		EP 0966303 A	29-12-1999
		JP 200009394 T	25-07-2000
		US 6030941 A	29-02-2000
WO 0002909 A	20-01-2000	AU 4386999 A	01-02-2000

